

What is claimed is:

1. In a disk drive of the type including at least one data disk, and an actuator assembly having an actuator arm connected to a suspension arm, the improvement comprising:

5 a lubricant film applied to selected swage contact surfaces wherein said lubricant film helps to prevent failure of the metal components during swaging and de-swaging.

2. A disk drive, as claimed in Claim 1, wherein said lubricant film comprises a polymer.

3. A disk drive, as claimed in Claim 1, wherein said lubricant film comprises a fluorocarbon composition.

4. A disk drive, as claimed in Claim 2, wherein said lubricant film comprises a fluoroalkylmethacrylate.

5. A disk drive, as claimed in Claim 1, wherein said lubricant film comprises a solid film.

6. A disk drive, as claimed in Claim 5, wherein said lubricant film is produced from CHF₃ gas.

7. A disk drive as claimed in Claim 1, wherein:
said actuator arm includes a distal end and an opening formed in said distal end,
said opening being defined by an inner surface, said suspension arm being connected to
said actuator arm by a swage boss extending from a swage plate attached to said
5 suspension arm, said sage boss being swaged with said opening, and wherein said

selected swage contact surfaces include at least one of said opening and an outer surface of said boss.

8. A disk drive, as claimed in Claim 1, wherein said lubricant polymer film is applied up to a thickness of 2700 angstroms.

9. A disk drive, as claimed in Claim 1, wherein said lubricant film is a monolayer.

10. A disk drive, as claimed in Claim 1, wherein said lubricant film is applied by immersing the selected swage contact surfaces in a dilute solution of the lubricant film, and draining the solution from said swage contact surfaces or raising the selected swage contact surfaces out of the solution at a desired rate.

11. A disk drive, as claimed in Claim 1, wherein said lubricant film is deposited upon said swage contact surfaces by a vacuum deposition process.

12. A disk drive, as claimed in Claim 1, wherein said lubricant film is deposited on said swage contact surfaces by spraying.

13. A method of assembling an actuator assembly of a disk drive, said method comprising the steps of:

providing an actuator arm having a proximal end and a distal end;

providing a suspension arm having a proximal end and a distal end;

5 fixing a swage plate to the proximal end of the suspension arm, said swage plate including a swage boss extending therefrom;

depositing a film lubricant upon at least an outer surface of said swage boss; and

attaching the suspension arm to the actuator arm by swaging the swage boss to an opening formed in the distal end of the actuator arm.

14. A method, as claimed in Claim 13, further including the step of:

depositing a film lubricant on the opening in said distal end of the actuator arm prior to said attaching step.

15. A method, as claimed in Claim 13, wherein:

said film is deposited upon the swage boss by immersing the swage boss in a dilute solution containing the film lubricant, and then draining the solution at a selected rate or raising the swage boss out of the coating solution at a desired rate.

16. A method, as claimed in Claim 13, wherein said film lubricant is deposited upon the swage boss by spraying.

17. A method, as claimed in Claim 13, wherein said film lubricant is deposited upon the swage boss by vacuum deposition.

18. A method, as claimed in Claim 13, wherein said film lubricant is a polymer film.

19. A method, as claimed in Claim 13, wherein said film lubricant is a solid film.

20. A method, as claimed in Claim 18, wherein said polymer comprises fluorocarbon.

21. A method, as claimed in Claim 19, wherein said solid film comprises fluorocarbon.

22. A method of reducing torque out retention values between an actuator arm and a suspension arm of a disk drive which are connected by swaging, said method comprising the steps of:

providing swage contact surfaces including an outer surface of swage boss, and an inner surface defining an opening in a distal end of the actuator arm; and applying a lubricant film coating to at least one of said outer surface and said inner surface prior to swaging of the actuator arm and suspension arm, thus providing lubrication in a subsequent de-swaging process.

23. A method, as claimed in Claim 22, wherein:

said lubricant film coating is applied to said swage contact surfaces by immersing said swage contact surfaces in a dilute solution containing the lubricant film coating, and then draining the solution or raising the swage contact surfaces out of the lubricant film coating solution at a selected rate.

24. A method, as claimed in Claim 22, wherein said lubricant film coating is applied to said swage contact surfaces by spraying.

25. A method, as claimed in Claim 22, wherein said lubricant film coating is applied to said swage contact surfaces by a vacuum deposition process.

26. A method, as claimed in Claim 22, wherein said film lubricant is a polymer film.

27. A method, as claimed in Claim 22, wherein said film lubricant is a solid film.

28. A method, as claimed in Claim 26, wherein said polymer film comprises fluorocarbon.

29. A method, as claimed in Claim 27, wherein said solid film comprises fluorocarbon.

30. In a disk drive of the type including at least one data disk, and an actuator assembly having an actuator arm connected to a suspension arm, the improvement comprising:

means applied to selected swage contact surfaces of the actuator arm and
5 suspension arm for lubricating said surfaces to reduce material failure of said contact surfaces during de-swaging.